



## 2SB1119/2SD1619

### LF Amplifier, Electronic Governor Applications

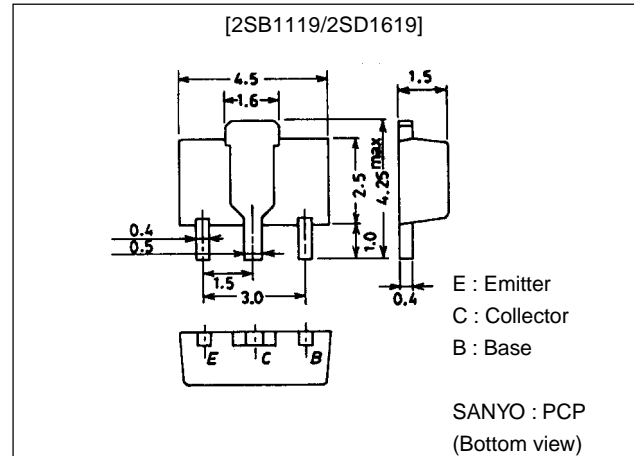
#### Features

- Very small size making it easy to provide high-density, small-sized hybrid IC's.

#### Package Dimensions

unit:mm

2038



() : 2SB1119

#### Specifications

##### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)25	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)25	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)5	V
Collector Current	$I_C$		(-)1	A
Collector Current (Pulse)	$I_{CP}$		(-)2	A
Collector Dissipation	$P_C$		500	mW
		Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	$T_J$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

##### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings		Unit	
			min	typ		max
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)20V, I_E = 0$			(-)0.1	μA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4V, I_C = 0$			(-)0.1	μA
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)2V, I_C = (-)50mA$	100*		560*	
	$h_{FE2}$	$V_{CE} = (-)2V, I_C = (-)1A$	40			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)10V, I_C = (-)50mA$		180		MHz

\* ; The 2SB1119/2SD1619 are classified by 50mA  $h_{FE}$  as follows :

100	R	200	140	S	280	200	T	400	280	U	560
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Marking 2SB1119 : BB

2SD1619 : DB

 $h_{FE}$  rank : R, S, T, U

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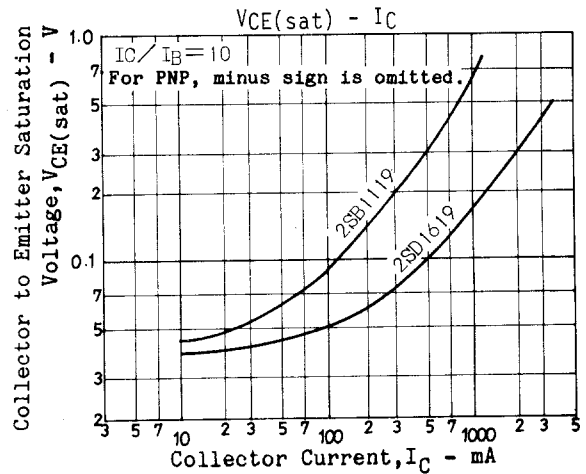
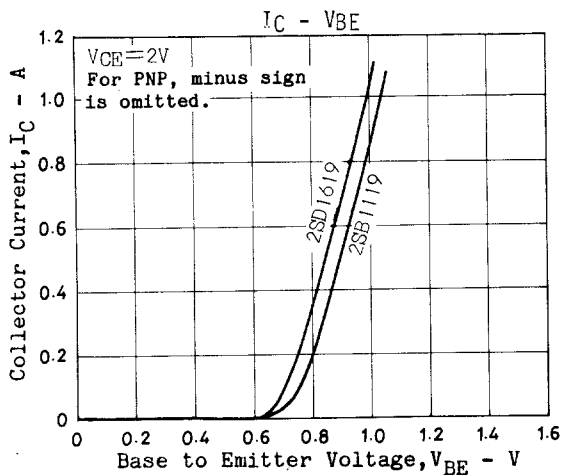
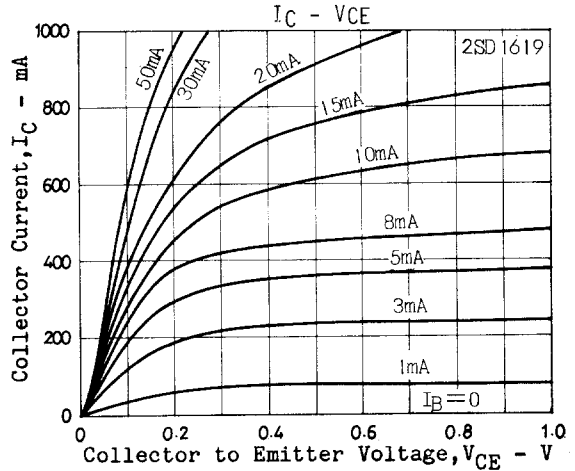
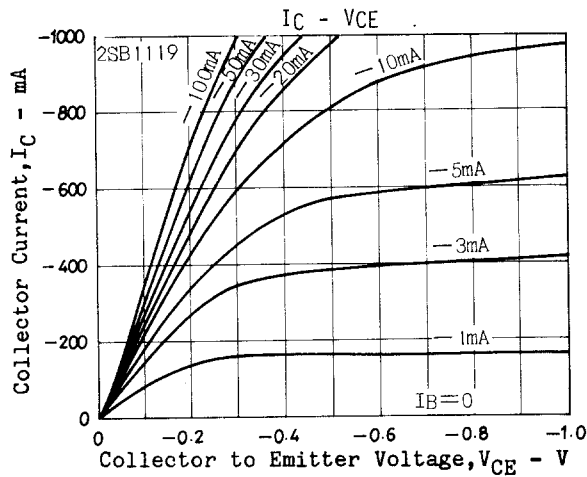
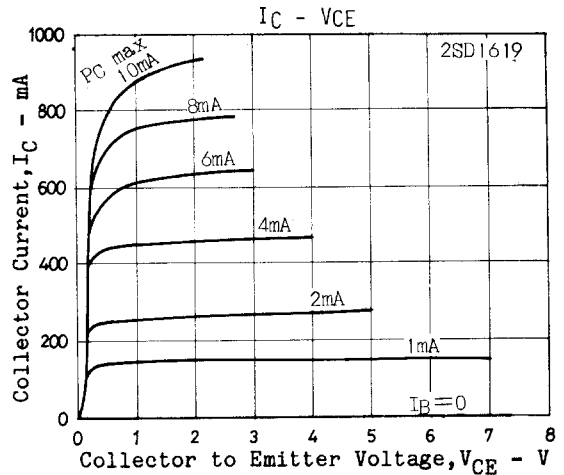
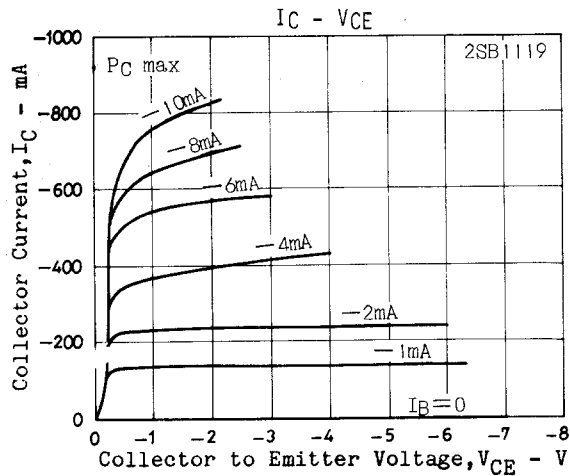
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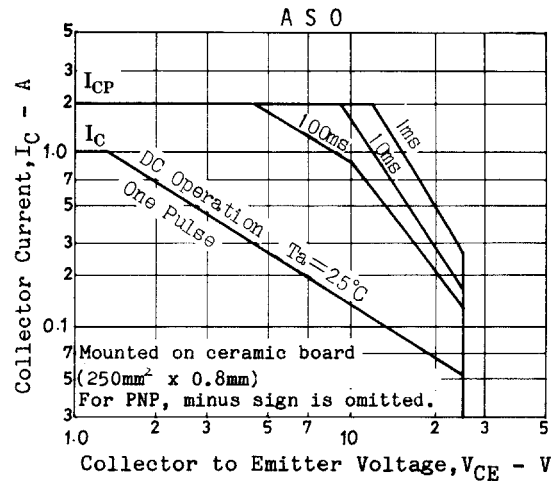
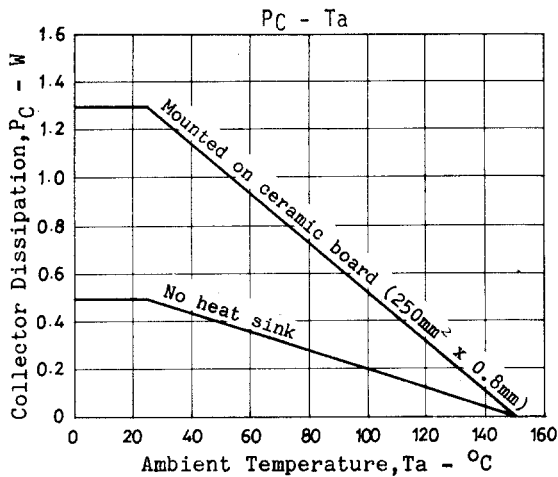
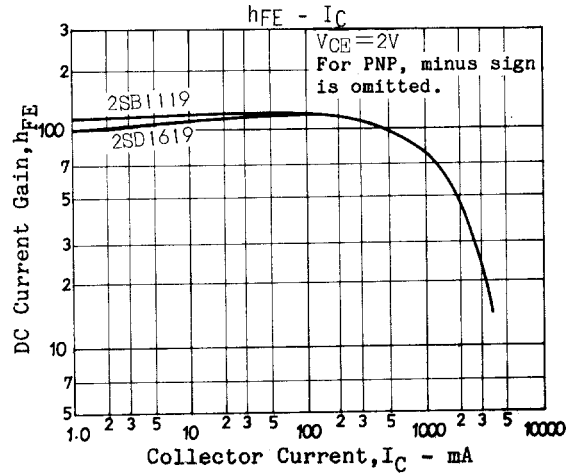
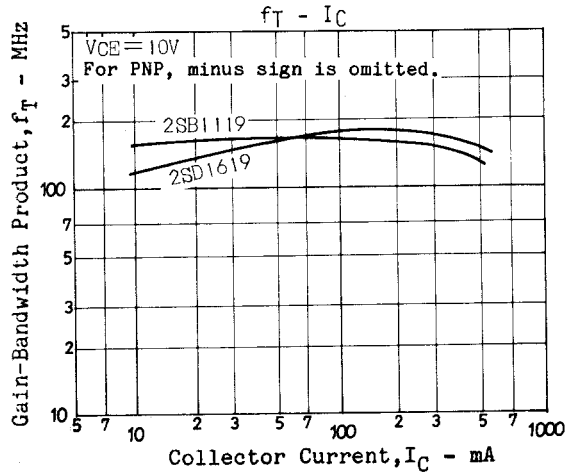
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## 2SB1119/2SD1619

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		0.1	0.3	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$		(-0.15)	(-0.7)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-25)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-25)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-5)			V
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		15		pF
				(25)		pF



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